The death of a member, the Rev. C. R. Demmé, on the 1st of September, at Philadelphia, aged 68 years, was announced by the Secretary.

The death of another member, the Rev. Calvin Pease, on the 17th instant, at Burlington, Vermont, was announced by Mr. Chase.

A communication was offered for publication in the Transactions, entitled, "On the Mathematical Probability of Accidental Linguistic Resemblances," by Pliny E. Chase, and referred to a committee, consisting of Professor Kendall, Professor Haldeman, and Dr. Coates.

A communication was offered for publication in the Transactions, entitled, "On the Comparative Etymology of the Yoruba Language," by Pliny E. Chase, and referred to a committee consisting of Professor Alexander, of Baltimore, Professor Haldeman, and Dr. Coates.

Pending nominations Nos. 503, 504 were read.

And the Society was adjourned.

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*Stated Meeting, October* 2, 1863.

Present, twelve members.

Judge SHARSWOOD, Vice-President, in the Chair.

Dr. Henry Hartshorne, a recently elected member, was introduced to the President, and took his seat. Letters accepting membership were received from Professor Von Liebig, dated Munich, August 17th, and from Dr. R. M. S. Jackson, dated Knoxville, Tennessee, September 23d, 1863.

Letters acknowledging the receipt of publications were received from the Royal Academy of Brussels, May 16th and October 18th, 1862; from the Imperial Soc. Nat., Moscow, April 10th and 22d, and from the Maryland Historical Society, Baltimore, September 8th, 1863. A letter was re-

ceived from Professor A. D. Bache, inclosing a photograph of the Chevalier Lombardini, and a request for No. —— of the Proceedings.

Donations for the Library were received from the Essex Institute, the Royal Observatory, Brussels, the Royal Academy, Belgium, Prof. A. Quetelet, Prof. A. D. Bache, Messrs. Silliman and Dana, E. and F. N. Spon, Samuel Breck, Assistant Adjutant-General, United States, and from the City Council.

Donations to the Album were received of the photographs of the Chevalier Lombardini, from Gen. A. A. Humphreys, and of Mr. C. N. Bancker.

The committee on Mr. Chase's paper, entitled "On the Mathematical Probability of Accidental Linguistic Resemblances," reported in favor of its publication in the Transactions, which, on motion, was so ordered.

An obituary notice of the late member, Charles J. Ingersoll, was read by Judge Sharswood.

A complete biography of CHARLES JARED INGERSOLL, would require to a considerable extent, a political history of the period during which he lived. His earnest action and patriotic spirit led him to take a part, and his ability and eloquence made that a prominent part, in all the events which were transpiring around him. But such is not the purpose of the obituary notices ordered by the American Philosophical Society of its deceased members. It is not an eulogium nor an extended memoir which they require, but a brief sketch, to be preserved in their archives, of the prominent facts of the life of the subject, and of the most striking traits of his character.

Mr. Ingersoll was born, on the 3d of October, 1782, in the city of Philadelphia. His father was one of the most distinguished of the leaders of the Old Bar of Philadelphia—a bar to be a member of which was itself a high distinction. He was also a delegate from the State of Pennsylvania to the Federal Convention of 1787, which formed the Constitution of the United States. His mother was the daughter of Charles Pettit, a member of Congress under the Articles of Confederation, and Commissary-General of Purchases to the Continental Army during the war of Independence.

Having completed his studies in preparation for the bar, under the direction of his father, he went abroad attached to the American Legation at the Court of St. James, and part of the family of Rufus

King, the minister. With him he travelled through Holland, Belgium, Switzerland, Germany, and France. Many years afterwards, in 1839, he wrote and published in a periodical an article headed "Europe Long Ago," a vivid though brief sketch of some of his recollections of England and France. In it are to be found crayon-like portraits of Fox, Erskine, and Napoleon, drawn from life by a keen observer, though with here and there a dash of caricature, interspersed amidst lively descriptions, in his own terse language, of "remarkable Holland, classic-Flanders, romantic Switzerland, and transcendental Germany, left to a long repose in my old portfolio."

When he returned from Europe, he brought with him, as he afterwards stated on the floor of Congress in 1844, intelligence of the conclusion of the treaty by which the First Consul of France ceded to the United States, the extensive territory of Louisiana,—an event for good and for evil, reaching far and wide into future history. He saw in it then none but unmixed good; for he was one of those men of ardent patriotism and expanded views, who placed no limits to republican institutions under a Federal system, but the bounds of the continent itself.

He entered upon the practice of his profession, and soon established a character at the bar which insured him large business, and what he prized more, extended reputation. His first case in the Supreme Court of the United States, was in 1810, King *vs.* Delaware Insurance Company, 6 Cranch, 71,—an important insurance cause; and thence down to the period of his retiring from the bar, scarcely a volume of the reports of the decisions of the highest Federal tribunal is without contributions from his learning and ability. Subjects of mercantile and prize law largely engaged his attention, and the case of Evans *vs.* Eaton, 3 Wheaton, 404, upon a very difficult and nice question, arising under the patent laws of Congress, would, if it stood alone, be a lasting monument to his learning, ingenuity and legal acumen. The reports of the Federal Courts of this Circuit, as well of the Supreme Court of Pennsylvania, are replete with evidences of an extensive and important practice, sustained on his part by unwearied industry and patient research. It may be stated as a matter of curiosity, that the first case argued by him as counsel, which appears in the Reports of the Supreme Court of Pennsylvania, is Fox *vs.* Wilcocks, 1 Binn. 194, decided in 1806. Occasionally, too, his services were called for in the highest tribunals of our sister and neighbor States. But it was in the Federal Courts of this Circuit, under the presidency of those distinguished jurists Bushrod

Washington, Henry Baldwin, Richard Peters, and Joseph Hopkinson, that his severest professional labors were undergone, and his richest rewards earned.

In 1815, he was appointed Attorney of the United States for the Eastern District of Pennsylvania, under the administration of Mr. Madison, and continued to hold that office during the succeeding administrations of Mr. Monroe and Mr. John Quincy Adams, for the space of fourteen years.

The pages of Report books, however, furnish but scanty and unsatisfactory evidence of the professional career of a lawyer. It often happens that his most remarkable efforts, his most eloquent appeals, as well as his most able and learned arguments live only in the memory of contemporaries, who have had the good fortune to be present on the occasion which called them forth. Those only who have witnessed Mr. Ingersoll in the trial of an important cause, extending, as often happened, through several days—his tact in so opening it as to produce a favorable impression on the jury—the admirable order and arrangement with which the testimony was brought forward—his skill in skirmishing with his antagonist on questions of evidence—and the earnest, faithful and exhaustive summing up of the merits of his client's case—the humor, sarcasm, irony and invective with which he assailed the positions of his adversary, can have any adequate idea of Mr. Ingersoll's power as an advocate. The writer of this notice was present on an occasion when, at the conclusion of one of his most brilliant efforts, a crowded bar could not be restrained by the proprieties of the place from a momentary expression of admiration and applause.

Mr. Ingersoll's attention during all this period was largely devoted to the politics of the times. A remarkable characteristic of his entire course as a public man was what may be termed intense Americanism. His country, its institutions and men, as they had his warmest affection, naturally commanded with it his full approbation and confidence. It was not, however, a mere sentiment. He had seen with his own eyes other countries, observed the working of other systems, and been thrown in personal contact with their most distinguished men. He had scanned and studied the whole field with the pages of history, and the interpretation of Montesquieu, her minister and oracle, open before him. This is his response: "If a republic is small, it is destroyed by foreign enemies; if large, by internal corruption. This double inconvenience infects alike democracies and aristocracies, whether good or bad. The evil is in the thing

itself. There is no way in which it can be remedied. So it would seem that men must in the end be obliged to live under the government of one, if a species of constitution had not been devised which has all the internal advantages of a republic and external force of a monarchy. I speak of a Federal Republic." (Montesq. De l'Esprit des Lois, lib. ix, chap. 1.) This was the deliberate conclusion of Mr. Ingersoll's judgment; that sovereign states, each small in territory, and organized as a Representative Democracy, but combined together in a Federal Union, was the system most adapted to educate the individual citizen, develop the resources, secure the industry, and strengthen the defences of a country. This seemed to him the voice of history; for what form of government has stood longer, borne the storms of faction, weathered the tempests of foreign war, and at the same time afforded the citizen the political education which elevated his character, and made nations of great men, like the Federal League of Achaia, the Confederation of the Swiss Cantons, and the United Provinces of Holland? Right or wrong, this was the principle of Mr. Ingersoll's political life He cherished an unshaken confidence in the power of a Federal Union of States to extend the benefits of republican institutions over the widest extent of territory. He gave his cordial support to the Constitution of the United States, as on the whole the best compromise that could have been devised, and kept steadily in view as his polar star, "the support of the State governments in all their rights, as the most competent administrations for our domestic concerns, and the surest bulwarks against anti-republican tendencies; the preservation of the General Government in its whole constitutional vigor, as the sheet anchor of our peace at home and safety abroad." (Mr. Jefferson's Inaugural, March 4th, 1801.)

In 1808, Mr. Ingersoll published "A View of the Rights and Wrongs, Power and Policy of the United States of America." It was an elaborate and extended vindication of the rights of neutral commerce, on the subjects of contraband, paper blockade, and impressment, and plainly declared his conviction of the result to which the civilized nations of the world must come at last in the progress of reason and religion,—the immunity of all private property in war on the ocean, as it had already been well established in war on land. "If," said he, "a concert with Russia, France, Holland and Spain, all of whom with Denmark must desire it, could be effectuated for freeing the ocean of privateers and search ships, and directing by common agreement the operations of war against ships of war, leaving the

merchantman to the peaceable pursuit of his traffic, and if such a system could be secured without our being drawn into hostilities, it certainly were a consummation devoutly to be wished."

In 1809, appeared anonymously from his pen, Inchiquin, or The Jesuit's Letters; purporting to be the correspondence of a young Irishman educated at St. Omer's, banished on account of complicity in the rebellion of 1793, and temporarily sojourning in the United States. With some lively hits at the manners, amusements and style of living, as well as the plan of the Federal capital, then even more truly than now described as the City of Magnificent Distances, were joined interesting, impartial and life-like sketches of Washington, the elder Adams and Jefferson, the three first Presidents. The main design of the publication, pursued with a bold and manly independence of thought and criticism, then new in American writers, was the vindication of the character, politics, literature, and science of this country against the slanders of the English tourists and scribblers.

Inchiquin was severely handled in the Quarterly Review for January, 1814, and this produced a reply published anonymously by J. K. Paulding, New York, 1815.

In the early part of 1812, Mr. Ingersoll came forward at a town meeting in Philadelphia, with resolutions, supported by a strong and effective speech, in favor of war with Great Britain, which was declared in the following June. In October, of the same year, he was elected a member of the Thirteenth Congress, whose term commenced March 4th, 1813. An extra session was called for May 24th, 1813, and that Congress sat almost continuously from that time until March 3d, 1815. It was an illustrious body. Without referring to the Senate at all, nor pretending to call over the full roll of great men who stood on the floor of the House of Representatives with Mr. Ingersoll, there were John Randolph, Henry Clay, William Lowndes, John C. Calhoun, Nathaniel Macon, and John W. Eppes. Mr. Ingersoll's first effort was in Committee of the Whole, June 29th, 1813, on a resolution submitted by him to impose a tax on incomes and inheritances. His great speech in defence of the policy of the war, into which he seemed to throw all his powers of logic, sarcasm and rhetoric, was delivered in Committee of the Whole, on the Loan Bill, February 14th and 15th, 1814. Nothing in the annals of parliamentary eloquence exceeds the weight of the torrent with which he bore down upon the employment by the British of Indian savages as auxiliaries. "So long ago as 1792 was this iniquity in preparation. Within the last two years, every disguise has been thrown off and

it stands forward before the world in all its horrid incarnation of avowal. Before General Hull's capitulation, the first blow that was struck in the present hostilities came from the Indians deep in the Northwest, against the post of Mackinaw. And what was that unhappy man's extenuation of his surrender? That the savages were swarming for his destruction, pouring down upon his army from the west and north, and hastening to their annihilation." "I solemnly protest," he exclaimed, "that my inconsiderable knowledge suggests no oblation ever laid on the altar of human malignity and vindictiveness to be compared with this subornation of our Indians by the English, who boast of their superior religion and charity, who have sent out more missionaries of late for the salvation of distant hemispheres, than all the rest of the world put together, against us Americans, their descendants, their flesh and blood, through the instrumentality of those savages, whom by every liberality and study, we have labored to humanize and ameliorate, and whom we could at any moment either extirpate or expel from the neighborhood of our frontier. It is, sir, an excess of wrong, which absolutely flings the hurdle and guillotine behind, and occupies the most conspicuous place in the representation of our most unnatural passions."

We cannot pretend to follow Mr. Ingersoll through his entire career in that Congress, in which among the men, tallest in intellectual stature which the Union has ever produced, he exercised a wide and commanding influence, and bore his share in all the most important debates. He occupied, by the appointment of the Speaker, Mr. Clay, the position of Chairman of the Judiciary Committee, and was a member also of the Committee of Foreign Relations, of which Mr. Calhoun was the Chairman.

After the close of this Congress, Mr. Ingersoll did not occupy a seat in any public deliberative body until 1830, when he was elected a Representative of the City of Philadelphia in the General Assembly of this Commonwealth. He had indeed, in the year 1825, attended what in our practical politics may be termed a quasi public body—a convention of delegates from all parts of the Commonwealth—to consider and adopt measures for the improvement of the State by the construction of navigable canals. In this convention, Mr. Ingersoll introduced a resolution in favor of the use of railroads, with locomotive steam-engines, in which he was seconded by Mr. Henry Vethake; but the motion was voted down by a large majority. In the Legislature he occupied the post of Chairman of the Standing Committee

on Internal Improvements, and made an able report on the subject. He introduced resolutions relative to the principles of the commercial intercourse of the United States with foreign countries, arguing that a system should be inaugurated by treaties on the great principle of national equality and equal reciprocity, reducing or abolishing imposts, and allowing the products of one country to find free ingress to every other.

He was, in the first instance, warmly in favor of the protection of domestic manufactures by the imposition of discriminating duties on imports by the Federal Congress, under the power contained in the Constitution. In this view, he attended and took an active part in the proceedings of several conventions, one at Harrisburg, in 1827, another at New York, in 1829, and still another at the last-named place, in 1831. At this convention of 1831 he was one of a sub-committee of three to prepare the address to the people. "This address, as far as the last paragraph on page 21, was composed by Warren Dutton, of Boston, with some parts contributed by John P. Kennedy, of Baltimore; from that paragraph to the end by C. J. I., with some contributions by Mr. Kennedy." (Note in Mr. Ingersoll's writing on his copy of the address.) That he regarded such governmental protection as necessary only for the first beginning of manufactures is evident from his urging at the New York convention the withdrawal of the duties upon coarse cottons, a proposition by no means agreeable to those interested. In a discourse delivered by him before the New York Institute, in 1835, he maintained that liberty, Union, and labor, protected everywhere by equal and just laws, are the most effectual encouragement of domestic industry.

It may be noticed that upon a kindred question of political economy Mr. Ingersoll was very explicit in his views. He was a decided bullionist. He looked at banks and paper money as inimical to the purity of our political institutions, and as paving the way for a kind of government which, under the forms of a representative democracy, would in truth be a plutocratic oligarchy,—the worst because the most selfish of all governments. For this reason he took an active part in favor of the measures of the administration against the Bank of the United States, though upon terms of the kindest friendship with Mr. Nicholas Biddle, and at a time when to do so in Philadelphia, required a gentleman to go through no common social ordeal.

We must rapidly run over the succeeding events of Mr. Ingersoll's political career. It having been determined by a vote of the people

that a Convention should be called for the purpose of proposing amendments to the State Constitution, he was elected a delegate to that body from the County of Philadelphia, in November, 1836, and took his seat at the opening of its sessions, May 2d, 1837. Here, as in every other deliberative body with which he was ever connected, he entered upon and performed his duties with a zeal, ability, and eloquence, which ranked him amongst the foremost of its members. Each party had carefully put forward its best and most popular men for election, and an amount of talent was congregated on its floor, certainly not to be found or expected in ordinary legislative assemblies. Its importance in all its aspects upon the future of the Commonwealth was fully appreciated, and what added much to the interest of its proceedings was, that upon coming together it appeared that the members stood, on a party vote, equally divided; one being neutral. The sessions of the Convention continued at Harrisburg until November 23d, 1837, and at Philadelphia from November 28th, 1837, until February 22d, 1838, when its labors were brought to a close. During this long period every topic which either directly or indirectly bore upon economy, legislation or government underwent full discussion. Mr. Ingersoll seems to have specially devoted his attention to the subjects of Currency and Education. His reports on these two subjects were elaborate and full. His speech on the Judicial Tenure was one in which he was able, with a large mass of anecdote and information, to join a striking display of the peculiar characteristics of his oratory.

Mr. Ingersoll, in October, 1840, was elected a member of the 27th Congress of the United States, and successively of the 28th, 29th and 30th Congresses, serving a period of eight years in that body. Thus, as his first service in Congress had been during the war of 1812, it was his fortune to be a member of the same body during another period of foreign war. He made many distinguished efforts during this long period of Congressional service. A part of the time he occupied one of the most important positions in the House, that of Chairman of the Standing Committee on Foreign Relations, and made several able reports in that capacity. After his retirement from Congress, he still continued to take an active interest in political affairs, and from time to time, to give his views of the great questions agitating the country. These are entirely too numerous to be here noticed in detail.

Let us turn to the more purely literary productions of Mr. Ingersoll's pen, and for this purpose we must revert to an earlier period of

his career. One of his first essays was a tragedy, "Edwin and Elgiva," which was performed with some success and published; and subsequently, a production of the same kind, "Julian, the Apostate," much more elaborate, was committed by him to the press.

On the 18th of October, 1823, he delivered the annual oration before this Society, being a Philosophical Discourse on the Influence of America on the Mind. It attracted extensive notice abroad, and was reviewed in the Révue Encyclopédique of France. On the 1st of October, 1824, at the memorable meeting of the Society, which was attended by our illustrious fellow-member General Lafayette, during that last visit of his to the United States, so remarkable an ovation to the hero of republican liberty in two worlds, a communication was read by Mr. Ingersoll, On the Improvement of Government. At a much later period, January 5th, 1855, he read before the Society, by appointment, a short and very interesting obituary notice of Joseph Bonaparte. On the 4th of July, 1832, he delivered an oration before the Philadelphia Association for celebrating the Anniversary of our Independence without Distinction of Party. It was a vivid sketch of the effects of the American revolution on the mind, manners, wealth and progress of the United States. This also attracted attention abroad, and was quoted by Bulwer in his novel of Rienzi.

In 1817, Mr. Ingersoll translated from the French, and published in Hall's Law Journal, a tract upon the freedom of the navigation and commerce of neutral nations during war, considered according to the laws of all nations, that of Europe and treaties; an historical and juridical essay to serve as an explanation of the disputes between belligerent powers and neutral states, on the subject of the freedom of maritime commerce. This was a subject which he always had much at heart, and to which at different periods of his life he gave great attention. In January, 1845, he published in the American Law Magazine, then edited by the writer of this notice, an article on the Law of Foreign Missions. In explanation of its origin and design, he said: "Several years ago, by way of evening employment in the country, I translated Bynkershœd's twenty-four books de Foro Legatorum, assisted by Barbeyrac's paraphrase, in turning very unclassical and difficult modern Latin into English. Finding my work when done but an imperfect view of the subject, and becoming pleased with it, I consulted Wicquefort, Bielfield, Vattel, Grotius, Merlin, Martin, and whatever other writers upon it I could lay my hands on. Finally, the following introduction was

composed to the knowledge of an important branch of jurisdiction, but little cultivated, whose principles and practice, fully presented, form a useful and interesting portion of law, seeming to supplant all other law and to exist without law." In this introduction, after tracing the history of the law of legations to the earliest times, and discussing in a succinct and clear method the well-established principles in regard to the inviolability of ambassadors and other public ministers, he concludes as follows: "It has long been among my fondest fancies, that this transatlantic country, with its free, benign, and pacific institutions, should deem it a part of American destiny to meliorate the law of nations by giving greater liberty to the sea, greater extension to commerce, and thereby diminishing the occasions of war. In this amelioration, foreign missions must perform important parts. The Federal Constitution, by elevating consuls to the rank of diplomatic agents as respects jurisdiction, made a first and important step towards this great change. Government, especially the Federal judiciary, may accomplish the rest. In nothing is the literature of English law so deficient as that of nations. America must make amends for it. Independence of bad precedents, offspring of angry conflicts, recurrence to first principles, restoration without innovation, by American judges and foreign ministers, may render this country the renovator, the arbiter and founder of a law of nations promoting general peace."

In 1835, a dispute, which arose between the City of Philadelphia and the Schuylkill Navigation Company, turned his attention to a subject of the class in which he especially delighted, and he published a short work on "River Rights," in which he discussed that important head of law with his accustomed research and ability.

In the year 1845, Mr. Ingersoll committed to the press the first volume of his "Historical Sketch of the Second War between the United States of America and Great Britain, declared by Act of Congress the 18th of June, 1812, and concluded by peace the 15th February, 1815," followed by a second volume in 1849, and completed by two additional volumes in 1852. In the preparation of this work he engaged *con amore*. He was not only a contemporary and interested spectator of all the events of the period, but could say with truth, *Quorum pars magna fui*. He knew personally the principal actors in the scene; he had studied closely the political complications of the plot, and wrote his history not during the heat of the contest, but thirty years afterwards, in the spirit of a calm, unimpassioned judge. It is this which gives the greatest interest and importance

to this contribution to American literature. Throughout the work appears and reappears strongly that intense Americanism to which we have before referred, showing that with the most ardent attachment to popular democratic forms of government, there went hand and hand, the sincere and deep convictions of his judgment, that with so vast a territory such institutions could only be permanent upon the basis of a Federal Union.

After the publication of this work, Mr. Ingersoll projected a History of the Territorial Acquisitions of the United States, and had made some progress in it when he was arrested by the hand of death. This event occurred after a short illness of inflammation of the lungs on the 14th of May, 1862, in the eightieth year of his age.

It will not be easy to add anything like a portraiture of Mr. Ingersoll within the limits proper for such a notice as the laws of the Society contemplate. Physically, he was slightly made, but of well-turned form and most gentlemanlike appearance. It is said, though I cannot vouch for the fact, that when elected to Congress in 1813, then thirty-one years of age, his appearance was so youthful that the doorkeeper at first discredited his assertion that he was a member, and refused him admittance. He looked all his life many years younger than he really was. In his eightieth year he might well have passed for a man of fifty, erect, agile, scarce a hair turned gray or tooth lost. He possessed indeed a most excellent constitution, which he had preserved by the strictest temperance in meat and drink, and by regular exercise. That he was an industrious student and constant reader all his life, the foregoing sketch, not pretending to give an account of all or even the greater part of his literary, political, and professional labors, will amply evince. He retained his intellectual faculties in full vigor up to the time of his death. He was a free and attractive conversationist, and one could rarely leave a company of which he had been a part, without carrying with him something well thought or well said by him. An Ex-President of the United States, who had represented this country at two foreign courts, and who largely cultivated the society of distinguished men at home and abroad, used to say that, when in the vein, Mr. Ingersoll was the most agreeable man he had ever met at a dinner-table. He was affable and courteous to all who approached him; in this respect agreeably disappointing those who had formed wrong notions of him from the partisan scribblers of the day. He was ardent and outspoken as to his political opinions, and thereby gave a handle to his opponents to represent him as radical and extreme, which he never was.

While his freedom and boldness won the affection and confidence of those who sympathized in his views, it aroused the ire of adverse partisans, and embittered the opposition to him. Hence he had to exercise to a large degree a virtue very essential in a statesman depending for his position and influence upon the popular will, and which on one occasion he himself called "the endurance of manurance."

As a writer, while all his earlier compositions are distinguished by great purity, tenderness, and elegance of language, a style gradually grew upon him, which cannot please a correct taste. It is, however, entirely original. In his speeches and conversation it was easy and diffuse. In writing and re-writing, which was always his habit, with an anxiety to condense, he was not able wholly to reject the collateral subjects of illustration, which presented themselves. His style is not a compound of artificial epithets and complicated convolutions, but rapid, broken, and rugged, as the result of an effort to press too much in a given space.

In his private relations, Mr. Ingersoll possessed the affection and veneration of all about him. He had a warm and affectionate nature, though a stranger would be apt to conclude from his exterior that he was cold. He was sensitive upon such subjects, and shrank from observation. It was so too as to his religious feelings and opinions,—he obtruded them upon no one. He was a sincere and firm believer in the truth of Christianity, without the slightest taint of bigotry or fanaticism, and attached to the forms and worship of the Protestant Episcopal Church, in the communion of which he died.

Mr. Chase made a communication in reply to the following questions of Mr. Dubois.

"What number of vowel-sounds are there in other languages, which are foreign to the English language?

"Are there any possible vowel-sounds, which are not used in any language?"

No writer that I have ever met with, has treated of the various sounds of speech so fully and satisfactorily, as Professor Haldeman in his Analytic Orthography, and in framing answers to the two questions, I shall be largely indebted to his work. (Trans. A. P. S., Vol. XI.)

According to his definitions, "Vowels are sounds of the uninterrupted voice, the distinction between them being due to slight

modifications, chiefly of the cavity of the mouth and pharynx. Vowels are *pure* or normal; *nasal*, as some of the French, Portuguese, and Polish vowels are; *whispered*, of which some of the aboriginal American languages afford examples; *independent* (of expiration, inspiration, or voice), being a vowel effect succeeding a clack; and *glottal*, in which the vowel is accompanied by a scraping effect along the rather close glottis. Its type is the Hebrew and Arabic *ain*. Consonants are the results of interrupting the vocalized or unvocalized breath." (Hald. § 156–7.)

Grammarians have usually admitted an intermediate class of semivowels, and the gradation is so imperceptible from the pure to the impure vowels, and from the impure vowels to the consonants, that a consideration of the consonant sounds is almost necessarily involved in any inquiry about the vowels.

The Sanscrit grammarians recognized three primary or pure vowels: 1. The full â (a); 2. The glottally interrupted í (i); 3. The labially interrupted ú (ŭ). Of these the a or ŭ is the purest, and, perhaps, the only one that is strictly entitled to the name of vowel. The u glides imperceptibly into the o, the i into the e, the a into â and ŭ, thus giving Haldeman's groups of 1, í e a o u; 2, í e ŭ or â ou.

The three primitives, i a u, with the modifications of a (â and ŭ), are spoken with tolerable uniformity; the others tend to become diphthongal ei or eŭ, ou or oŭ. This tendency in the English ā and ō, was happily noticed by Dr. B. H. Coates, in the note to Professor Tafel's communication on the Laws of English Orthography and Pronunciation. (Proc. A. P. S., V. IX., p. 54.)

The Sanscrit grammarians were aware of the same peculiarity in their own language, but their delicacy of analysis has not been generally appreciated by others. Thus Wilkins says (p. 5):

"ē, though classed among diphthongs, differs not from the simple sound of e in where (ă ŭ). . . . . It is said to be a compound of *a* and *i*.

"ō differs not from our *o* held long, as in *stone* (ō u); though it is said to be a diphthong composed of *a* and *u*."

Even our Saxon ancestors showed their perception of vocal combinations, by expressing with two letters sounds that the mistaken reformers of our day would fain denote by a single character, *e. g.*, *they*, *their*. There are undoubtedly vowel-sounds analogous to our ā, ō, and even to our ī, which are not diphthongs, but such is the flexibility of our vocal organs, and so fixed is the habit of rapid

change, that it requires a strong effort to sustain them without corruption by a leaning either to a closer or to a more open sound. And when they are combined with consonants of a different contact from their own, it is often absolutely impossible to avoid giving them a diphthongal character, except by the trick of an intervening nasal, or by an abrupt staccato like the Chinese ji or yap shing. The reasons for this impossibility may be easily shown.

U is a labial vowel,—A, a palatal,—and I, a guttural. [Haldeman, § 159.] As long as there is sufficient opening between the lips to allow of the formation of the u sound, or of any nasal sound, the consonants of any contact, labial, dental, palatal, or guttural, can be formed without difficulty. U and English *ng* can therefore be combined with any consonant whatever, without losing their distinctive character.

But if we attempt to combine any other vowel with any except its cognate consonants, just before the consonantal interruption is made, either the corresponding vowel, or a nasal, or a *u*, must be produced. Ape thus becomes āŭp, ache āĕk, or āŭk, ode ōūd, eat ēŭt, eve ēŭv, &c. It is often difficult to discover the precise combination of sounds, but I think it will always be found that such a combination exists.

The number of possible secondary or intermediate vowels between the broad open á, and the close í and ú, is *infinite;* but by making a limited number of divisions, the vowel sounds of different languages can be compared with sufficient accuracy. Professor Haldeman makes fourteen such divisions on each side of á, indicating twenty-nine distinct pure vowel sounds, thirteen of which are foreign to the English language, and, perhaps, four out of the thirteen are not represented in any language. [§ 369, sqq.] These thirteen foreign vowels are:

1. The Italian "*o aperto,*" between b*a*ld and b*o*ld, as in p*o*co.
2. French o between *o*we and the o aperto, as in p*o*ste, n*o*te.
3–4. Two unrepresented sounds between *o*bey and 5.
5. Italian "*o chiuso,*" as in c*o*nca. [o approaching u.]
6. Ossetisch V, between 5 and Ger. ö or ü.
7. Ostjak and Iroquoi *ω*, somewhat like o in m*o*i.
8. Suabian a, perhaps corresponding to Sanscrit *a*, between *u*rn and *a*dd.
9-10. Two unrepresented sounds between *a*dd and No. 11.
11. Suabian ϵ, a little more open than th*e*re.
12. Gudjrat'hi *E*, between *e*bb and *e*ight.

13. Hungarian e, between judgment and *it*.

There are also ten foreign vowels intermediate "between those of the throat and the lip side of the scale, and akin to both." [§ 430.] The extremes are ö in könig, and ü in übel. Of these sounds two are common to French and German, one is French, one Russian, one Swedish, one Samojedic, one Alsacian, and three are unrepresented.

Perhaps the simplest of the impure vowels (or sounds which are otherwise modified than by the size and shape of the oral cavity), are the guttural *ch*, and Welsh u (y), akin to French u, but made "with the tongue between the teeth" [§ 439], and related to Welsh ll, nearly as u to v.

In the class of tongue-modified vowels should also be included the Sanscrit ṛ and ḷr.

Cary, in his "Sungskirt Grammar," represents the ṛ sound by *ir* instead of *ri*, which is the substitute adopted by most of the more recent writers upon the Sanscrit language. Dr. Joseph Thomas, who visited India for the purpose of studying the pronunciation of the natives, says that *r* is neither *ir* nor *ri*, but a simple soft burr, or rolled vowel. The ḷr appears to be a kind of palatal u. The affinity of u, r, and l, is shown by the various attempts of the Chinese and of children to pronounce sounds that they are unable to form.

If the number of possible pure vowels is infinite, the same must be true *a fortiori* of the modified vowels, and among the vocalized or semi-vocalized aspirates, sibilants, nasals, and liquids, an immense number of sounds might readily be found, which are used neither in our own nor in any other language.

Professor Haldeman made some remarks upon the same subject, giving illustrations of whispered vowels.

Pending nominations Nos. 503, 504, were read.

Dr. Coates called the attention of the Society to the part of the Catalogue already printed, and moved that copies be presented to corresponding Societies. On motion of Prof. Cresson, the motion of Dr. Coates was laid on the table. Mr. Chase moved that the Catalogue as far as printed, be distributed to subscribers. On motion of Prof. Cresson, it was referred to the Committee on the Library, with instructions to report.

And the Society was adjourned.